CLAIM AMENDMENTS

Claim 1   (original) A method of routing a data packet through a foreign agent to a wireless node, comprising the steps of:

receiving said data packet at said foreign agent from a home agent associated with said wireless node;

associating a home Internet Protocol (IP) address and a home agent IP address contained in said data packet with a Point-to-Point Protocol (PPP) link address in said foreign agent, said PPP link address associated with a PPP link established between said foreign agent and said wireless node; and

forwarding said data packet through said foreign agent to said PPP link for transmission to said wireless node.

Claims 2-15   (canceled)

Claim 16   (new) In a communication system for communicating with a plurality of mobile nodes, the system managing Internet Protocol (IP) addresses in multiple address pools, the multiple pools having overlapping IP addresses and each pool being associated with a unique home agent IP address, a method comprising:

assigning a home IP address to a given mobile node from one of the multiple pools; and,

in a mobility agent, using a combination of the assigned home IP address of the given mobile node and an IP address of a home agent to uniquely identify the given mobile node.

Claim 17   (new) The method of claim 16, wherein the mobility agent comprises a foreign agent.

Claim 18   (new) The method of claim 16, wherein the multiple pools are included in the mobility agent; and

assigning the home IP address to the given mobile comprises assigning the home IP address to the given mobile node from among one of the multiple pools stored in the mobility agent.

Claim 19   (new) The method of claim 18, wherein assigning the home IP address to the given mobile is performed by the mobility agent.

Claim 20   (new) The method of claim 16, wherein assigning the home IP address to the given mobile is performed by the mobility agent.

Claim 21   (new) A communication system for communicating with a plurality of mobile nodes in a communication system, the communication system managing multiple Internet Protocol (IP) address pools having overlapping IP addresses, each pool being associated with a unique home agent IP address, wherein a home IP address for a given mobile node is associated with one of the multiple pools, the system comprising:

a mobility agent that uses a combination of the home IP address and an IP address of a home agent to uniquely identify the given mobile node.

Claim 22   (new) The communication system of claim 21, wherein the mobility agent is a foreign agent.

Claim 23   (new) The communication system of claim 21, wherein:

the mobility agent comprises the multiple pools; and

the mobility agent assigns the home IP address to a given mobile node from one of the multiple pools.